



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,124	07/10/2006	Lid B. Wong	BIO1819P0091US	1620
32116 7590 11/07/2008 WOOD, PHILLIPS, KATZ, CLARK & MORTIMER 500 W. MADISON STREET SUITE 3800 CHICAGO, IL 60661				
EXAMINER CONNOLLY, PATRICK J				
ART UNIT 2877		PAPER NUMBER		
MAIL DATE 11/07/2008		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/550,124

Applicant(s)

WONG ET AL.

Examiner

PATRICK J. CONNOLLY

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10th July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19th September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/5508)
- Paper No(s)/Mail Date 12.22.2005
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 5-8 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by “Fluorescence and Laser Photon Counting: Measurements of Epithelial $[Ca^{2+}]_i$ or $[Na^+]_i$ with Ciliary Beat Frequency” by Mao et al (hereafter Mao).

As to claim 1, Mao discloses a method for measuring ciliary beat frequency and metachronal wave frequency of ciliated epithelia including (see Figure 1, page 668, see also page 675 column 1):

illuminating the sample (via 10mW HeNe laser);

detecting light backscattered from the sample surface with a microscope system (objective, inverted microscope); and

analyzing the backscattered light with a real-time analysis system (see page 666, column 2, second paragraph; see also top of column 2 on page 669).

As to claim 2, Mao discloses a beam expander (10x beam expander).

As to claim 3, Mao discloses a beamsplitter and Teflon in a Michelson arrangement (see Figure 1).

As to claim 5, Mao discloses mixing the scattered sample and reference light (see page 669, column 1).

As to claim 6, Mao discloses a photon counting photomultiplier tube (PMT).

As to claim 7, Mao discloses simultaneous measurements of metachronal wave frequency and ciliary beat frequency (see *Comments on Nonstationary Laser Light Scattering Technique* pp. 674-675).

As to claim 8, Mao discloses real-time time-scale wavelet transformation of the time series photon count data; and performing real-time Hilbert transformation of the time series photon count data (see page 669, column 1, top of column 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mao as applied above.

Mao teaches focusing the transmitted beam by the objective to the sample, but is silent with respect to an "eye-piece" for visualization. The Examiner would like to point out that Mao does refer to "direct visual feedback during the experiment" (last line of page 667).

The Examiner takes Official Notice of the fact that it is notoriously well known in the art to include an eye-piece in microscope arrangements in order to achieve quick visual confirmation of optical conditions, such as focusing or sample condition.

It would have been obvious to one of ordinary skill in the art at the time of invention to include said eyepiece in the method and arrangement of Mao in order to achieve said quick visual access.

Several facts have been relied upon from the personal knowledge of the examiner about which the examiner took Official Notice in this Office Action mailed. The applicant must seasonably challenge well known statements and statements based on personal knowledge. See MPEP 2144.03; *In re Selmi*, 156 F.2d 96, 70 USPQ 197 (CCPA 1946); *In re Fischer*, 125 F.2d 725, 52 USPQ 473 (CCPA 1942); and *In re Boon*, 439 F.2d 724, 169 USPQ 231 (CCPA 1971).

A challenge to the taking of judicial notice must contain adequate information or argument to create on its face a reasonable doubt regarding the circumstances justifying the judicial notice. To adequately traverse such a finding, an applicant must specifically point out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art, a general allegation that the claims define a patentable invention being inadequate.

A seasonable challenge constitutes a challenge made as soon as practicable during prosecution. Thus, the applicant is charged with rebutting the well-known statement in the next reply after the Office action in which the well-known statement was made. If the applicant does not seasonably traverse the well-known statement during examination, then the object of the well-known statement is taken to be admitted prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICK J. CONNOLLY whose telephone number is (571)272-2412. The examiner can normally be reached on 9:00 am - 7:00 pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on 571.272.2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patrick J Connolly/
Primary Examiner, Art Unit 2877